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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,690	12/02/2003	Klaus Wagner	Mo6428D/LeA 33,444D	3408

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EXAMINER

MCKENZIE, THOMAS C

ART UNIT	PAPER NUMBER
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1624

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/725,690	WAGNER ET AL.	
	Examiner	Art Unit	
	Thomas McKenzie, Ph.D.	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 8-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,10,12 and 13 is/are allowed.
- 6) ☒ Claim(s) 8,11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/869,905.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/2/03</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This action is in response to amendments filed on 3/17/05. Applicant has amended claims 9-12 and 15. Claims 8-16 were previously rejected. Claims 9, 10, 12, and 13 were designated as containing allowable subject matter.

***Response to Amendment***

2. Applicants' amendment to claim 15 concerning the scope of the pests to be controlled overcomes the enablement rejection made in point #2 of the previous office action. Applicants' terminal disclaimer to US Patent 6,683,028 overcomes the double patenting rejection made in point #4 of that action.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 11, and 14-16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimitsu (WO 91/01978 A1, Translation PTO 05-1070.). The reference teaches the compounds 80-82, page 15, 162-165, pages 21-22, compounds 338-340, pages 37-38, and compounds 419-422, page 45. The Applicant claims the compounds of formula (I) with A = N-Me, N-Et, R<sup>1</sup> = 3-pyridyl, R<sup>2</sup> = hydrogen, R<sup>3</sup> = -O-Et and -S-Et, R<sup>4</sup> = R<sup>10</sup> = ethyl, and Z = CN. The

reference teaches such compounds with an extra methylene group linking  $R^3$ . These are compounds 80-82. The difference between the claimed and taught compounds is the length of the linking chain. Applicants claim a one-carbon atom chain and the reference teaches two carbon atoms in the chain. It has been long established that a structural relationship varying the size of a linking carbon chain is *per se* obvious not requiring a specific teaching. Specifically, *In re Shetty*, 195 USPQ 753, *In re Wilder*, 195 USPQ 426 and *Ex Parte Gresham* 121 USPQ 422 all feature a compound with a  $C_2$ -link rejected over a compound with a  $C_1$  link. Similarly, *In re Chupp*, 2 USPQ 2nd 1437 and *In re Coes*, 81 USPQ 369 have a  $C_1$  link unpatentable over a  $C_2$  link.

The Applicant claims the compounds of formula (I) with  $A = \text{N-Me, N-Et, and N-Bu}^t$ ,  $R^1 = 6\text{-chloro-3-pyridyl}$ ,  $R^2 = \text{hydrogen}$ ,  $R^3 = \text{-O-Et and -S-Et}$ ,  $R^4 = R^{10} = \text{ethyl}$ , and  $Z = \text{CN}$ . The reference teaches such compounds with an extra methylene group linking  $R^3$ . These are compounds 162-165. The Applicant claims the compounds of formula (I) with  $A = \text{N-Me, N-Et}$ ,  $R^1 = 3\text{-pyridyl}$ ,  $R^2 = \text{hydrogen}$ ,  $R^3 = \text{-O-Et and -S-Et}$ ,  $R^4 = R^{10} = \text{ethyl}$ , and  $Z = \text{NO}_2$ . The reference teaches such compounds with an extra methylene group linking  $R^3$ . These are compounds 338-340. The Applicant claims the compounds of formula (I) with  $A = \text{N-Me, N-Et, and N-Bu}^t$ ,  $R^1 = 6\text{-chloro-3-pyridyl}$ ,  $R^2 = \text{hydrogen}$ ,  $R^3 = \text{-O-Et and$

-S-Et,  $R^4 = R^{10} = \text{ethyl}$ , and  $Z = \text{NO}_2$ . The reference teaches such compounds with an extra methylene group linking  $R^3$ . These are compounds 419-422. Thus, claim 11 is made obvious.

The lack of physical data suggests that the compounds of Ishimitsu (WO 91/01978 A1) are prophetic examples. However, the synthesis outlined in the diagram at the top of page 4 would be capable of making the taught compounds. Synthesis of intermediate (II) with chloromethyl ethyl ether is capable of making Applicants' claimed compounds. Thus, Ishimitsu (WO 91/01978 A1) is an enabling disclosure for all analogous compounds.

Claim 3 of the reference teaches an "insecticide" made from the taught compounds. Thus, the present claim 14 is made obvious. The first paragraph on page 53 of the translation teaches that the taught compounds have "potent insecticidal action". Thus, the present claim 15 is made obvious. The second and third paragraphs on page 53 and the passage on page 54, beginning at line 13 teach mixing the taught compounds with diatomaceous earth, silica, talc, clay, and bentonite extenders. The final line on page 54 teaches mixing with the surfactant dioctyl sodium sulfosuccinate. Thus, the present claim 16 is made obvious.

Applicants make two arguments concerning this rejection and proffer a set of comparative test data. Neither their arguments nor their data are convincing.

Firstly Applicants argue that no motivation exists in the reference to shorten the R<sup>3</sup> chain. According to MPEP §2144.09 "homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties." That expectation of similar properties is the motivation to prepare the shorter chain compounds. Applicants also argue that the Examiner has failed to make a *prima facie* case of obviousness. Again according to MPEP §2144.09, "[a] prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. In this case, the utilities are identical and the removal of a methylene group from the taught compounds produces a structurally close homologue.

Applicants' claim 8 is a fairly broad claim. It is hard to calculate the number of claimed compounds but if one fixes Applicants' radicals R<sup>1</sup> and Z to those taught in the prior art, then the claimed R<sup>2</sup> and R<sup>3</sup> groups encompass thousands of species. Applicants' R<sup>3</sup> group is drawn to a subgenus of six radicals, even one of which OR<sup>4</sup> has hundreds of possible values. Both Applicant and the prior art claims -OCOR<sup>5</sup> and -S(O)R<sup>10</sup> as R<sup>3</sup> although neither has working examples of these two subgenuses.

The MPEP §716.02(g) requires any evidence of unexpected results to be in Affidavit or Declaration form. Applicants' Enclosure 1 is not in such form. The MPEP §716.02(d) requires the evidence of unexpected results must be commensurate in scope with the claims. Three case bearing upon this issue and upon which the Examiner has sought guidance are *In re Grasselli and Hardman, and Rohm and Haas Company, Intervenor*, 218 USPQ 769 (evidence of unexpected results for a sodium containing catalyst was not commensurate in scope to claim to a catalyst with any one of six alkali metals), *In re Payne, Durden, and Weiden*, 203 USPQ 245 (where an applicant tests less than all the cited compounds, the test must be sufficient to permit a conclusion respecting the relative effectiveness of applicant's claimed compounds), and *In re Greenfield and DuPont*, 197 USPQ 227 (testing only one 3-isothiazolone compound of a claimed subgenus which consists of several hundred compounds is inadequate proof).

Applicants proffer comparative test data on two compounds found in Ishimitsu (WO 91/01978 A1, Translation PTO 05-1070.). These are Examples 421 and 422. Compound 421 and Applicants' close analog were tested against aphid and myzus. Compound 422 and Applicants' close analog were tested against myzus, phaeton, and plutella. In all five cases Applicants' compounds performed better than the prior art. Sometime dramatically so, 90% of myzus survived

exposure to the prior art compound Example 422 but only 5% survived exposure to Applicants' close analog at the same concentration. Sometimes modestly so, 30% of aphids survived exposure to prior art compound 421 but only 2% survived exposure to Applicants' close analog at the same concentration.

Applicants proffer test data against *plutella* with a third compound having an isopropyl group at Applicants position  $R^{11}$ . This was not one of the compounds cited by the Examiner and is not a working example found in Ishimitsu (WO 91/01978 A1, Translation PTO 05-1070.). The prior art has working examples with both ethyl and *t*-butyl at  $R^{11}$  and the isopropyl group is embraced by both the present claims and the claims of the prior art. With the third compound, the differences are less impressive, 80% of *plutella* survived exposure to the isopropyl analogue of the prior art and 65% survived exposure to Applicants' close analog at the same concentration.

Applicants have no comparative data for the Examples 162-165 of the prior art, which have  $Z = NO_2$ . Applicants have no comparative test data for compounds 80-82 of the prior art, which have  $R^1 = 3\text{-pyridyl}$ .

The prior art used assays against cotton aphids and green rice leafhoppers. Applicants have a single test with aphids and ran the test at 40 ppm concentration. The prior art tested 10 compounds against cotton aphids, none of them under



discussion here, and ran the test at 125 ppm. Applicants tested their methyl compound against myzus at a concentration of 200 ppm and their ethyl compound against the same insect myzus at a concentration of 40 ppm. Both compounds had approximately the same effect against myzus. The Examiner is frankly uncertain how these varying test concentrations affect the results.

Because Applicants have compared only 2 of the 10, or arguably 3 of the 11, compounds found in the prior art, have a broad claimed scope, and the uncertainty of how concentration of test compound affects the outcome, the data proffered by Applicants to show unexpected results is not commensurate with the scope of their claims.

*Allowable Subject Matter*

4. Claims 9, 10, 12, and 13 are allowed.

*Conclusion*

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Information regarding the status of an application should be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). Please direct general inquiries to the receptionist whose telephone number is (703) 308-1235.

7. Please direct any inquiry concerning this communication or earlier communications from the Examiner to Thomas C McKenzie, Ph. D. whose telephone number is (571) 272-0670. The FAX number for amendments is (571) 273-8300. The PTO presently encourages all applicants to communicate by FAX. The Examiner is available from 8:30 to 5:30, Monday through Friday. If attempts to reach the Examiner by telephone are unsuccessful, please contact James O. Wilson, acting SPE of Art Unit 1624, at (571)-272-0661.

  
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